DISCUSSANT'S COMMENTS ON SESSION TRAINING CERTIFIERS OF CAUSE OF DEATH

WHO-FIC-IFHRO Joint Committee, Alexandria, Virginia
May 5, 2006

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INTRODUCTION

I was very pleased that Marjorie Greenberg invited me to be a discussant at a session on training physicians to complete cause of death on death certificates. Marjorie knows that this has been a continuing interest of mine as it is the foundation of reliable mortality statistics on cause of death. Without valid cause of death on death certificates, our data on cause of death is simply not meaningful. As the old saw goes, "garbage in, garbage out."

My discussion is in two parts. The first are comments on the papers that have been presented. The second part of my discussion is some observations of my own on training medical certifiers. I hope that they will contribute to the general topic.

COMMENTS ON THREE PRESENTATIONS

Roberto Becker's presentation was an excellent summary of the training course on medical certification that he has used and refined over the years. It is encouraging that an experienced and knowledgeable physician like Roberto is teaching these courses around the world, because the most effective communicators with the physician community are physicians themselves like Roberto. The format of his presentation is excellent. I particularly liked his emphasis on the uses of information from reported cause of death on death certificates, inasmuch as many physicians are unaware that the statements they put on death certificates are translated into public health data. From my experience, it can also be highly effective to use local examples in teaching and problem-solving exercises, and to highlight special problems in certification.

The presentation by Donna Hoyert and Bob Anderson summarizes activities of the U.S. National Center for Health Statistics (CDC) that are on-going as well as historical, many the outgrowth of the two seminal conferences on improving cause-of-death reporting held in 1989 and 1991. Recommendations from those conferences shaped many of the NCHS initiatives that continue to this day. Among their key points are that training physicians is most effective when multiple concurrent approaches are taken in multiple settings. They illustrate this, for example, by the exhibits presented over the years at meetings of different medical specialty groups, and by the the use of different training media such as plastic instruction cards, websites, and on-line tutorials. One of the important recommendations made in these workshops, I recall, was that in research articles using mortality statistics that a salient statement be included that the research is based on cause of death reported by physicians on death certificates; since many readers, including physicians, are simply unaware of the connection between mortality data used in research and medical certifications on death certificates for which physicians are responsible. For a time, I was able to ensure that such a statement was included, at least,

in CDC publications. The presentation by Donna and Bob raised two questions: (1) Why doesn't CDC on their website include links to the NCHS page on completing death certification? (2) My impression was that the NCHS website included links to on-line tutorials for completing cause-of-death certifications. That I was unable to access these tutorials this morning may reflect my own ineptness at the computer or else a broken link. I would appreciate their checking. (3) Finally, I was concerned to hear that the new (2003) U.S. Standard Certificate of Death is not being implemented completely by all the States; specifically, that some States are not including the expanded instructions to physicians on how to complete cause of death. I hope that NCHS can use financial incentives and friendly pressure to get more States to fully implement the new death certificate. The new U.S. Standard Certificate of Death can result in better mortality data, as amply demonstrated by the improved reporting of maternal deaths. We recall that the 1989 U.S. Standard Certificate of Death, which incorporated expanded instructions to physicians, resulted in measurable improvements in data quality. The 2003 Standard Certificate could be expected to do the same if fully implemented.

In the third paper, which was presented by Monica Pace, I was very pleased to see that the Eurostat project on death certification has been completed, and with such impressive results. It is gratifying, moreover, that the training components of this large project have been endorsed by the participating European countries. There are a number of strengths in this project to which I would like to call your attention: first, it is comprehensive and complete; that is, it provides us with a Manual, on-line tutorials, and a leaflet that can be made available to physicians and others. Another strength is that the training materials can easily be adapted to the needs and context of different European countries. I would extend that by saying that the materials can probably be adapted to the needs of almost any country; so this product is especially important, it seems to me, as a possible model for the World Health Organization, not just the European community. I also found of great value the incorporation of implementation strategies, which recognize, implicitly, that physician training requires not only excellent teaching materials, but also a plan for getting this material out into the field. In other words, to make such an undertaking effective requires training material, delivery systems, and an implementation plan. The Eurostat project also recognizes that the same strategy may not work in all countries, and makes provision for these differences.

These three excellent presentations have a number of commonalities that are worth pointing out: (1) they recognize the importance of emphasizing to physicians that death certifications are the basis for important health data, (2) they are sensitive to different institutional and local contexts in which physicians do their work; that is, what works in one country or area may not work as well in another, (3) they are all moving toward web-based training tools, but recognize the continuing value of more traditional teaching approaches, including workshops with physician-to-physician contact, and, finally, (4) the presentations mentioned, in passing, querying about which I shall have more to say.

OTHER ISSUES IN TRAINING PHYSICIANS

As discussant, I would like to make a few general points on the topic of training medical certifiers. They fall under four headings:

- Querying cause-of-death statements
- Automation in training medical certifiers
- Delivering the goods in training medical certifiers
- The role of WHO's Mortality Reference Group

Querying cause-of-death statements. What is cause-of-death querying and how many of you have heard of it? In some countries, such as the United States, cause-of-death querying is an integral part of processing death certificates once they have been received in State vital statistics offices. While querying is considered essentially as part of quality control for cause-of-death statements, it is also an invaluable training tool in those states where it is meaningfully used.

What is meant by querying? Querying is basically asking the certifying physician whether what he or she wrote on the death certificate is accurate, for selected death certificates. The selection of which certificates are to be queried in this labor intensive process is based in part on what in the U.S. is called the "rare cause list," which NCHS can make available to you. The list contains a number of important diseases that are considered public health threats as well as maternal causes. It includes, for example, diphtheria, malaria, polio, exposure to radiation – causes of death about which we should be certain if they appear in our mortality statistics. Ideally, when such a death certificate is seen in the State health department, the State epidemiologist should contact the certifying physician by letter, telephone, or electronically to verify that the cause-of-death statement really is accurate. However, ideally, one should also query those cause-of-death statements that are uninformative or incorrect, as when imprecise terms are used, or when symptoms and ill-defined conditions are listed.

When querying was initiated in the U.S. in 1900 by the U.S. Bureau of the Census, it was done mainly to discourage physicians from using imprecise terms for cause of death. Since then, the process has been considerably elaborated, and, if resources were adequate, would include querying for implausible sequences in the cause-of-death statement. For a time, in the 1940's, the National Office of Vital Statistics, also queried a random sample of death certificates, for quality control; but this was stopped because of resource constraints.

While it is highly desirable for the State epidemiologist, a physician, to do the querying – in a physician-to-physician dialogue, in practice, it probably does not work that way. Instead of the State epidemiologist, it is usually the mortality medical coder who carries out the querying.

How much of a workload is querying in the U.S.? In practice, the intensity of querying cause-of-death statements varies considerably by state. Donna Hoyert, Bob Anderson, and Donna Glenn can provide you with data, but I think the States are querying about 5 percent of the 2.4 million deaths that occur annually in the United States, which would amount to about 2,000 per State per year. This is a considerable workload and obviously would tie up the State epidemiologist if he or should were to do it themselves.

Why have I given so much emphasis to what appears to be a quality control procedure for mortality statistics? It is because cause-of-death querying can be an important on-going training tool for physicians. The physician who is contacted about the accuracy of his or her cause-of-death statement is put on alert that his certification is not just a perfunctory statement, but one that is reviewed by the State health authorities, and

one that is the basis for public health statistics. Querying is also an opportunity to make the certifiers aware of training material on cause-of-death statements.

We have considerable empirical evidence that querying can have a huge training impact, that it can modify physician report practice, and that it can materially improve the quality of cause-of-death information reported on death certificates. Moreover, those states that have implemented querying see a downward trend in the number of certificates that have to be queried because of the positive training effect of querying. NCHS can provide you with considerable material on querying, and the nature of the practices that we encourage the states to use. Further, there is some information on querying in reports of the two national conferences that NCHS sponsored on improving the quality of cause-of-death statistics in the U.S.

Automation in Training Medical Certifiers. By automation, I am referring to the use of computers by certifiers to improve their skills in completing cause-of-death statements. We can expect automation to become increasingly prevalent as a training tool as more and more tutorials are put on the web and become an integral part of the physician knowledge base. We know that automated training can be efficient, personalized, and highly specific – focusing on those areas that are most complicated, for example, deaths from poisonings and drugs. Not only can computerized learning teach and reinforce good certification practices, but it can also help provide a public health perspective by emphasizing that cause-of-death statements are used to promote public health in disease surveillance and program planning and evaluation.

As a footnote on automation, I would like to note that there can be downsides to the use of automation, that automation also has the potential to diminish the quality and specificity of cause-of-death statements. This can occur if we allow computer systems experts to over-automate cause-of-death statements. We know that computer systems designers like to use pick lists, that is, list from which the user can select the appropriate answer. This is bad practice is cause-of-death certification, but we know that there is a temptation to use such computer capabilities.

A few years ago, a hospital in New York City contacted NCHS; they told us that the hospital was instituting an electronic records system and that they were going to use it to complete cause-of-death statements. The list, as I recall, had fewer than 100 causes of death from which the physician was to select! This compares with about 7,000 to 8,000 potential cause-of-death categories in ICD-10, and more than that if we include subsequent updates to ICD. Fortunately, NCHS persuaded the New York Cith Health Department not to endorse the automated procedures for the cause-of-death statement, and to insist that the physician complete the cause of death using his or her own medical terminology.

However, we can be sure that the use of pick lists in cause-of-death certification will continue to be promoted by computer systems designers. We need to be vigilant, or else the specificity of cause-of-death statements will suffer, as will the use of the most up to date medical terminology. Pick lists will always reflect old knowledge, not emerging terminology and new knowledge.

Delivering the Goods. The third topic concerns what I call “delivering the goods.” By that I mean that it is insufficient, in my opinion, to just develop training materials, web sites, and tutorials – no matter how excellent their content may be. We have to get the training material to physicians and to encourage their use. This has to be a continuing

campaign, supported by the highest authorities in public health. I have to admit, for example, that it was literally years before I, as head of the Mortality Statistics Branch in the U.S., was made aware of the WHO cause-of-death training material. While the product was of excellent quality, the delivery system, at least for the U.S., was not working. We need to ensure that training material reaches the appropriate audience, and is used. In the U.S. that means there needs to be a proactive effort on the part of NCHS to encourage the use of its training material, including implementation of the excellent new U.S. Standard Certificate of Death.

Training and education have to be a continuing process of developing effective material, of updating material, and ultimately of "delivering the goods." Under this rubric, I would like to add that we need to recognize what those in the advertising business call the segmentation of the market, that is, that the target audience for the training material is not homogenous. From my experience in Egypt, Jordan, and Eastern Europe, we recognize that we need to separately target newly-graduating physicians, interns and residents, as compared with those physicians who have long been in practice. These are different audiences and the modalities to be used in reaching them may need to be different, though overlapping.

The Role of WHO's Mortality Reference Group. WHO's Mortality Reference Group was established principally to provide a channel through which the ICD mortality updating process could operate by way of the Update Reference Committee. As a unique body of experts on medical certification of death, the MRG, it seems to me, could add value to any major products flowing from the work of training group.

CONCLUSION

In conclusion, let me, once again, congratulate our presenters for their thoughtful and informative presentations. It is exciting and encouraging to see such excellent work, and movement toward convergence in developing training tools that can be used worldwide.

Let me recapitulate my main points:

- Querying can be one of the most effective tools for training physicians in completing cause-of-death statements, and in reinforcing the value of death certificate information.
- Automation is an important tool for training through, for example, on-line tutorials and ultimately, electronic death registration. However, automation – indiscrimately applied by computer systems designers – can adversely affect the quality of cause-of-death statement.
- Training needs to be a continuous process. Just developing excellent training material is only part of the job. We have to deliver the goods continuously; that requires considerable effort and resources; but it is a worthy goal.
- As the international group of specialists in cause-of-death classification and coding, WHO's Mortality Reference Group can play a useful role in reviewing training material emanating for the work of the WHO-FIC Training Committee.